

CLAIMS

1. A method for implementing a resonant circuit comprising of an input signal connected to the input of a transmission line. The output of the transmission line is connected to a capacitive load. The input signal is also connected to a parallel capacitive load.
2. The method of claim 1 wherein the transmission line is implemented off-chip.
3. The method of claim 1 wherein the transmission line is implemented on a silicon or other semiconductor substrate.
4. The method of claim 1 wherein the transmission line is implemented on the package substrate.
5. The method of claim 1 wherein the transmission line is implemented on a PCB board.
6. The method of claim 1 wherein the transmission line is implemented as a co-planar waveguide.
7. The method of claim 1 wherein the transmission line is implemented as a microstrip line.
8. The method of claim 1 wherein the transmission line is implemented as a stripline transmission line.
9. The method of claim 1 wherein the transmission line is implemented as other known transmission line types.

10. The method of claim 1 wherein the said capacitive load is tunable.
11. The method of claim 1 wherein the said parallel capacitive load is tunable.
12. The method of claim 1 wherein the transmission line length is one quarter the wavelength of the wavelength at the resonant frequency.
13. The method of claim 1 wherein the transmission line length is $n \cdot \lambda + n \cdot \lambda / 4$, where λ is the wavelength at the resonant frequency.
14. The method of claim 1 wherein the circuit component values satisfy the relationship, $2 \cdot \pi \cdot f_0 = 1 / \sqrt{C_o \cdot C_L \cdot Z_o^2}$, where f_0 is the resonant frequency, C_o is said parallel capacitive load value, C_L is said capacitive load value, and Z_o is the characteristic impedance of said transmission line.